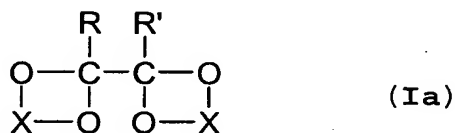


WHAT IS CLAIMED AS NEW AND IS INTENDED TO BE SECURED BY
LETTERS PATENT IS:

1. A process for preparing acetals of α,β -dicarbonyl compounds of the general
5 formula $(R''O)_2CRCR'(OR'')_2$ (I), where

R and R' are each independently H, (C_1-C_8) -alkyl, (C_3-C_8) -cycloalkyl, (C_2-C_8) -alkenyl, (C_2-C_8) -alkynyl or (C_6-C_{18}) -aryl and

R'' is in each case independently (C_1-C_8) -alkyl, (C_3-C_8) -cycloalkyl, (C_2-C_8) -alkenyl
or (C_2-C_8) -alkynyl or a chain X where X is a (C_2-C_{12}) -alkylene chain or (C_2-C_{12}) -
10 alkenylene chain which joins the two oxygen atoms of the α -carbon atom and/or the two
oxygen atoms of the β -carbon atom (acetals (Ia))



15 which comprises

continuously reacting compounds of the type $R\text{-CO-CO-R'}$ with alcohols of the type
 $R''\text{OH}$ or HO-X-OH , where R, R', R'' and X are each as defined above, in a countercurrent
apparatus.

20 2. The process of claim 1, wherein the compound of the type $R\text{-CO-CO-R'}$ is fed
into the countercurrent apparatus in liquid form or in the form of a solution and the com-
pound $R''\text{OH}$ or HO-X-OH is fed into the countercurrent apparatus in such a way that the
vapor of the alcohol $R''\text{OH}$ or HO-X-OH flows in countercurrent to the compound of the
type $R\text{-CO-CO-R'}$ in liquid form or in the form of a solution.

3. The process of claim 1, wherein the compound $R''OH$ or $HO-X-OH$ is fed into the countercurrent apparatus in gaseous form in such a way that the compound $R''OH$ or $HO-X-OH$ in gaseous form flows in countercurrent to the compound of the type $R-CO-CO-R'$ in liquid form or in the form of a solution.

4. The process of claim 1, wherein the compound $R-CO-CO-R'$, in liquid form or as a solution, and the alcohol $R''OH$ or $HO-X-OH$ in liquid form are fed into the countercurrent apparatus and the alcohol is vaporized in the apparatus in such a way that the vapor of the alcohol $R''OH$ or $HO-X-OH$ generated in this way flows in countercurrent to the liquid α,β -dicarbonyl compounds $R-CO-CO-R'$ or their solution.

5. The process of claim 1, wherein the countercurrent apparatus used is a thin-film evaporator, a falling-film evaporator, a reaction column or a stirred tank battery.

6. The process of claim 1, wherein the reaction is carried out in the absence or in the presence of an acidic or of a basic catalyst.

7. The process of claim 1, wherein the reaction is carried out in the presence of a homogeneous or heterogeneous catalyst.

8. The process of claim 1, wherein the reaction is carried out at a temperature of from 20 to 250°C.

9. The process of claim 1, wherein the reaction is carried out at a pressure of from

20 mbar to 20 bar.

10. The process of claim 1, wherein the molar ratio of the amount of α,β -dicarbonyl compound R-CO-CO-R' fed in to the amount of the alcohol R" OH fed in is from 1:2 to 1:2000.

11. The process of claim 1, wherein the molar ratio of the amount of α,β -dicarbonyl compound R-CO-CO-R' fed in to the amount of the alcohol R"OH fed in is from 1:8 to 1:20.

12. The process of claim 1, wherein the molar ratio of the amount of α,β -dicarbonyl compound R-CO-CO-R' fed in to the amount of the alcohol HO-X-OH fed in is from 1:1 to 1:1000.

13. The process of claim 1, wherein the molar ratio of the amount of α,β -dicarbonyl compound R-CO-CO-R' fed in to the amount of the alcohol fed in HO-X-OH is from 1:4 to 1:10.

14. The process of claim 1, wherein the secondary streams occurring in the reaction are isolated by means of distillation and recycled into the process.